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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/584,570	05/31/2000	Steven M. Reynolds	P99, 0629	3873
23641	7590	04/01/2004	EXAMINER	
BARNES & THORNBURG 600 ONE SUMMIT SQUARE FORT WAYNE, IN 46802			LAU, TUNG S	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 04/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/584,570

Applicant(s)

REYNOLDS ET AL.

Examiner

Tung S Lau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39, 47, 48, 50, 51 and 53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 12, 17, 18, 22, 31, 32, 34, 35, 38, 39, 47, 48, 50, 51 and 53 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 8-11, 13-16, 19-21, 23-30, 33, 36, 40 and 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 17, 31, 39, 48, 51, 2, 3, 4, 7, 12, 18, 22, 32, 34, 35, 38, 47, 50, 53 are rejected under 35 U.S.C. 102(e) as being anticipated by Discenzo (U.S. Patent 6,434,512).

Regarding claim 1:

Discenzo discloses a method of facilitating maintenance of a pump comprising providing a pump including wear parts, a processor and memory (fig. 4a, unit 146, 140, 32); sensing at least one longitudinal wave generation operating behavior of the pump indicative of the operation of the pump (Col. 6, Lines 8-21, Col. 8, Lines 47-65); generating operational data reflective of the sensed operating behavior; storing the generated operational data in the memory (fig. 4a, unit 146, 140, 32); storing parts identification data identifying wear parts of the pump in the memory storing at least one predetermined level of operational information (Col. 6, Lines 8-21, Col. 8, Lines 47-65); operating the processor to

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compare the stored predetermined level to the stored operational data and in dependent response thereto outputting information as to the desirability of replacing or repairing at least one selected wear part (Col. 21, Lines 27-47, Col. 19, Lines 25-39).

Regarding claim 17:

Discenzo discloses a method of modifying an operation of a pump comprising the following steps: providing a pump, a processor and memory (fig. 4a, unit 146, 140, 32); sensing at least one acoustical signal generating operating condition of the pump indicative of the operation of the pump with an acoustical signature sensor (Col. 6, Lines 8-21, Col. 8, Lines 47-65); generating operational data reflective of the sensed operating condition; storing the generated operational data in the memory (Col. 6, Lines 8-21, Col. 8, Lines 47-65, fig. 4a, unit 146, 140, 32); storing at least one predetermined level of operational information; operating the processor to compare the stored predetermined level to the stored operational data and in dependent response thereto outputting information as to the desirability of modifying the operation of pump (Col. 6, Lines 8-21, Col. 8, Lines 47-65, Col. 21, Lines 27-47, Col. 19, Lines 25-39).

Regarding claim 31:

Discenzo discloses a pump comprising: at least one wear part, a processor and memory (fig. 4a, unit 146, 140, 32), at least one acoustical sensor for sensing at least one operating condition of the pump (Col. 6, Lines 8-21, Col. 8, Lines 47-65), and a display (fig. 4a, unit 92) the acoustical sensor communicating

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operational data reflective of the sensed operating condition to the processor (Col. 6, Lines 8-21, Col. 8, Lines 47-65), the processor storing the operational data in the memory and updating the stored operational data upon receipt of new operational data from the sensor (Col. 6, Lines 8-21, Col. 8, Lines 47-65, Col. 21, Lines 27-47, Col. 19, Lines 25-39), the memory also comprising parts identification data identifying wear parts of the pump and at least one predetermined level of operational information (Col. 6, Lines 8-21, Col. 8, Lines 47-65, Col. 21, Lines 27-47, Col. 19, Lines 25-39), the processing comparing the stored predetermined level to the stored operational data and in dependent response thereto outputting information to the display as to the desirability of replacing or repairing at least one selected wear part (Col. 6, Lines 8-21, Col. 8, Lines 47-65, Col. 21, Lines 27-47, Col. 19, Lines 25-39).

Regarding claim 39:

Discenzo discloses a pump comprising: at least one wear part (Col. 8, Lines 47-65, Col. 21, Lines 27-47, Col. 19, Lines 25-39), a processor and memory (fig. 4a, unit 146, 140, 32), at least one sensor for sensing at least one acoustical signal generating operating condition of the pump (Col. 8, Lines 47-65, Col. 21, Lines 27-47, Col. 19, Lines 25-39), and a display (fig. 4a, unit 92), the sensor communicating operational data reflective of the sensed operating condition to the processor (fig. 4a, unit 140, 32), the processor storing the operational data in the memory and updating the stored operational data upon receipt of new operational data from the sensor (Col. 8, Lines 47-65, Col. 21, Lines 27-47, Col.

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19, Lines 25-39), the memory also comprising parts identification data identifying wear parts of the pump and at least one predetermined level of operational information, the processor comparing the stored predetermined level to the stored operational data and in dependent response thereto outputting information to the display as to the desirability of replacing or repairing at least one selected wear part modifying the operation of the pump (Col. 8, Lines 47-65, Col. 21, Lines 27-47, Col. 19, Lines 25-39).

Regarding claim 48:

Discenzo discloses a method of facilitating maintenance of a pump comprising the following steps: providing a pump including wear parts (Col. 8, Lines 47-65, Col. 21, Lines 27-47, Col. 19, Lines 25-39), a processor and memory (fig. 4a, unit 146, 140, 32), sensing at least one acoustic signature signal of the pump indicative of the operation of the pump (Col. 8, Lines 47-65, Col. 21, Lines 27-47, Col. 19, Lines 25-39); storing the sensed signature signal in the memory; storing parts identification data identifying wear parts of the pump in the memory storing at least one predetermined signature signal (Col. 8, Lines 47-65, Col. 21, Lines 27-47, Col. 19, Lines 25-39); operating the processor to compare the stored predetermined signature signal to the stored sensed signature signal and in dependent response thereto outputting information as to the desirability of replacing or repairing at least one selected wear part (Col. 8, Lines 47-65, Col. 21, Lines 27-47, Col. 19, Lines 25-39).

Regarding claim 51:

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Discenzo discloses a pump comprising: at least one wear part (Col. 8, Lines 47-65, Col. 21, Lines 27-47, Col. 19, Lines 25-39), a processor and memory (fig. 4a, unit 146, 140, 32), at least one sensor for sensing at least one acoustical signature signal of the pump (Col. 8, Lines 47-65, Col. 21, Lines 27-47, Col. 19, Lines 25-39), and a display (fig. 4a, unit 92), the sensor communicating the sensed signature signal to the processor (fig. 4a, unit 140, 62), the processor storing the signature signal in the memory and updating the stored signature signal upon receipt of a new signature signal from the sensor (Col. 8, Lines 47-65, Col. 21, Lines 27-47, Col. 19, Lines 25-39), the memory also comprising parts identification data identifying wear parts of the pump at least one predetermined signature signal (Col. 8, Lines 47-65, Col. 21, Lines 27-47, Col. 19, Lines 25-39),

Regarding claims 2, 3, 4, 7, 12, 18, 22, 32, 34, 35, 38, 47, 50, 53:

Discenzo discloses repeating the checking (Col. 3-4, Lines 14-10), detecting a identifying the part from memory (Col. 9, Lines 44-61, fig. 4a, 146); including physical integrity (Col. 9, Lines 44-61, fig. 4a, 146, Col. 6, Lines 8-21); using sensor (fig. 4a, unit 62); use temperature sensing (Col. 6, Lines 22-48); a stand alone computer (fig. 4a, unit 60); link to another processor of another pump (fig. 4a, unit 200, 140); wear part is a pumping element (Col. 17, Lines 31-36); use predetermine level to modify the operation of the pump (Col. 19, Lines 25-39); the signal is vibratory (fig. 4e, unit 308).

Claim Objections

2. The amendment filed on March 18, 2004 does not comply with the format set forth in the revision to 37 CFR 1.121 because claim 40 is missing from section of the amendment. The revision to 37 CFR 1.121 requires that a status identifier shall be provided for **every claim** in a parenthetical expression following the claim number.

3. Claims 5, 6, 8, 9, 10, 11, 14, 15, 16, 13, 19-21, 23-30, 33, 36, 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitation of the base claim and any intervening claims.

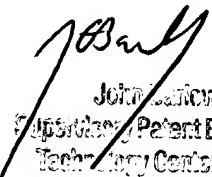
The following is an examiner's statement of reasons for allowance: prior art fail to teach sense the reverse flow through a check valve, compare to operation data predetermined level data, element is a diaphragm; sense step sis a cycle rate; flow rate; acceleration of cycle rate; fill rate of the pump chamber; suction pressure of the pump; a computer is a hand held.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 571-272-2274. The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5841 for Official RightFAX, for regular communications and 703-308-5841 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956. TC2800 FAX Telephone Numbers: 703-872-9306
TC2800 Customer Service FAX - (703) 872-9317

TL


John Barlow
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